The following listing of claims supercedes and replaces all listings of claims in the patent application.

1. (Currently Amended) A local area augmentation navigation system for determining the location of an object using differential GPS, the system comprising:

at least two reference stations at known locations, each of the reference stations receiving a GPS signal from a GPS constellation and collecting and outputting the pseudo-range data from the GPS signal;

a master station receiving the pseudo-range data from the reference stations, the master station forming a correction message from the pseudo-range data and the known locations of the reference stations, the master station broadcasting the correction message;

a security receiver and an evaluation computer cooperating to monitor~~ing~~ the broadcast of the correction message by the master station ~~and,~~ to also monitor other broadcasts in the area for unauthorized broadcasts having a similar character as the correction message broadcast by the master station, and to output an alert signal upon detection of an unauthorized broadcast, wherein the evaluation computer receives the correction message output by the master

station and determines that an unauthorized broadcaster exists when the message received by the security receiver does not match the correction message broadcast by the master station; and

a LAAS receiver receiving the correction message broadcast by the master station as well as a GPS signal from the GPS constellation and calculating the location of the LAAS receiver with the correction message and the GPS signal.

2. (Original) The local area augmentation navigation system of claim 1, wherein the master station includes a VHF transmitter and broadcasts the correction message with the VHF transmitter.

3. (Original) The local area augmentation navigation system of claim 1, wherein the known locations of the reference stations are precisely surveyed locations.

4. (Original) The local area augmentation navigation system of claim 1, wherein each of the reference stations includes an independent power supply.

5. (Original) The local area augmentation navigation system of claim 4,

wherein the independent power supply is a solar power supply.

6. (Currently Amended) The local area augmentation navigation system of claim 1, wherein the local area augmentation navigation system does not require any ~~significant~~ power or communication infrastructure.

7. (Original) The local area augmentation navigation system of claim 1, wherein the correction message is broadcast as an omni directional data broadcast.

8. (Original) The local area augmentation navigation system of claim 1, wherein the correction message is broadcast as a directional data broadcast.

9. (Original) The local area augmentation navigation system of claim 1, wherein the object is an airplane, and wherein the correction message includes differential pseudo-range corrections and data describing the final approach paths that are available to the pilot.

10. Cancelled, without prejudice

11. Cancelled, without prejudice.

12. (Currently Amended) The local area augmentation system of claim [[10]] 1, wherein the evaluation computer is implemented in the security receiver.

13. (Currently Amended) The local area augmentation system of claim [[10]] 1, wherein the evaluation computer is implemented in the master station.

14. (Currently Amended) The local area augmentation system of claim [[10]] 1, wherein the evaluation computer is implemented in an air traffic control computer.

15. (Original) The local area augmentation system of claim 1, wherein the reference stations communicate with the master station via wireless transceivers.

16. (Original) The local area augmentation system of claim 1, wherein the communication between the reference stations and the master station is encoded.

17. (Currently Amended) A local area augmentation navigation system for

determining the location of an object using differential GPS, the system comprising:

at least two reference stations at known locations, each of the reference stations receiving a GPS signal from a GPS constellation and collecting and outputting the pseudo-range data from the GPS signal;

a master station receiving the pseudo-range data from the reference stations, the master station forming a correction message from the pseudo-range data and the known locations of the reference stations, the master station broadcasting the correction message;

~~a security receiver having an antenna separate from the master station for monitoring the broadcast by the master station and other broadcasts in the area~~ a security receiver and an evaluation computer cooperating to monitoring the broadcast of the correction message by the master station, to also monitor other broadcasts in the area for unauthorized broadcasts having a similar character as the correction message broadcast by the master station, and to output an alert signal upon detection of an unauthorized broadcast, the security receiver having an antenna separate from the master station, and wherein the evaluation computer receives the correction message output by the master station and determines that an unauthorized

broadcaster exists when the message received by the security receiver does not match the correction message broadcast by the master station; and

a LAAS receiver receiving the correction message broadcast by the master station as well as a GPS signal from the GPS constellation and calculating the location of the LAAS receiver with the correction message and the GPS signal.

18. (Original) The local area augmentation navigation system of claim 17, wherein the master station includes a VHF transmitter and broadcasts the correction message with the VHF transmitter.

19. (Original) The local area augmentation navigation system of claim 17, wherein the known locations of the reference stations are precisely surveyed locations.

20. (Original) The local area augmentation navigation system of claim 17, wherein each of the reference stations includes an independent power supply.

21. (Original) The local area augmentation navigation system of claim 20,

wherein the independent power supply is a solar power supply.

22. (Currently Amended) The local area augmentation navigation system of claim 17, wherein the local area augmentation navigation system does not require any ~~significant~~ power or communication infrastructure.

23. (Original) The local area augmentation navigation system of claim 17, wherein the correction message is broadcast as an omni directional data broadcast.

24. (Original) The local area augmentation navigation system of claim 17, wherein the correction message is broadcast as a directional data broadcast.

25. (Original) The local area augmentation navigation system of claim 17, wherein the object is an airplane, and wherein the correction message includes differential pseudo-range corrections and data describing the final approach paths that are available to the pilot.

26. Cancelled, without prejudice.

27. Cancelled, without prejudice.

28. (Currently Amended) The local area augmentation system of claim [[26]] 17, wherein the evaluation computer is implemented in the security receiver.

29. (Currently Amended) The local area augmentation system of claim [[26]] 17, wherein the evaluation computer is implemented in the master station.

30. (Currently Amended) The local area augmentation system of claim [[26]] 17, wherein the evaluation computer is implemented in an air traffic control computer.

31. (Original) The local area augmentation system of claim 17, wherein the reference stations communicate with the master station via wireless transceivers.

32. (Original) The local area augmentation system of claim 17, wherein the communication between the reference stations and the master station is encoded.

33. (Currently Amended) A local area augmentation navigation system for determining the location of an object using differential GPS, the system comprising:

at least two reference stations at known locations, each of the reference stations receiving a GPS signal from a GPS constellation and collecting and outputting the pseudo-range data from the GPS signal;

a master station receiving the pseudo-range data from the reference stations, the master station forming a correction message from the pseudo-range data and the known locations of the reference stations, the master station broadcasting the correction message;

a security receiver and an evaluation computer cooperating to monitor the broadcast of the correction message by the master station, to also monitor other broadcasts in the area for unauthorized broadcasts having a similar character as the correction message broadcast by the master station, and to output an alert signal upon detection of an unauthorized broadcast, the security receiver positioned remotely from the master station ~~for monitoring unauthorized broadcasts in the area having a similar character as the correction message broadcast by the master station~~,and wherein the evaluation computer receives the correction message output by the master station and determines

that an unauthorized broadcaster exists when the message received by the security receiver does not match the correction message broadcast by the master station; and

a LAAS receiver receiving the correction message broadcast by the master station as well as a GPS signal from the GPS constellation and calculating the location of the LAAS receiver with the correction message and the GPS signal.

34. (Original) The local area augmentation navigation system of claim 33, wherein the master station includes a VHF transmitter and broadcasts the correction message with the VHF transmitter.

35. (Original) The local area augmentation navigation system of claim 33, wherein the known locations of the reference stations are precisely surveyed locations.

36. (Original) The local area augmentation navigation system of claim 33, wherein each of the reference stations includes an independent power supply.

37. (Currently Amended) The local area augmentation navigation system of

claim [[4]] 36, wherein the independent power supply is a solar power supply.

38. (Currently Amended) The local area augmentation navigation system of claim 33, wherein the local area augmentation navigation system does not require any ~~significant~~ power or communication infrastructure.

39. (Original) The local area augmentation navigation system of claim 33, wherein the correction message is broadcast as an omni directional data broadcast.

40. (Original) The local area augmentation navigation system of claim 33, wherein the correction message is broadcast as a directional data broadcast.

41. (Original) The local area augmentation navigation system of claim 33, wherein the object is an airplane, and wherein the correction message includes differential pseudo-range corrections and data describing the final approach paths that are available to the pilot.

42. Cancelled, without prejudice.

43. Cancelled, without prejudice.

44. (Currently Amended) The local area augmentation system of claim [[9]] 33, wherein the evaluation computer is implemented in the security receiver.

45. (Currently Amended) The local area augmentation system of claim [[9]] 33, wherein the evaluation computer is implemented in the master station.

46. (Currently Amended) The local area augmentation system of claim [[9]] 33, wherein the evaluation computer is implemented in an air traffic control computer.

47. (Original) The local area augmentation system of claim 33, wherein the reference stations communicate with the master station via wireless transceivers.

48. (Original) The local area augmentation system of claim 33, wherein the communication between the reference stations and the master station is encoded.

Cancel claims 49-70, without prejudice.

71. (Currently Amended) A method for enhancing the security of a broadcast of a correction message between a master station of a local area augmentation system and a LAAS receiver, comprising the step of:

monitoring the broadcast between the master station of the local area augmentation system and the LAAS receiver for unauthorized broadcasts in the area having a similar character as ~~a~~ the correction message broadcast by the master station using a security receiver;

receiving the correction message output by the master station; and

outputting an alert signal ~~upon detection of an unauthorized broadcast~~ when the message received by the security receiver does not match the correction message broadcast by the master station.

72. (Currently Amended) In an airport navigation system, a method for enhancing the security of a broadcast of a correction message between a master station of the airport navigation system and a LAAS receiver, comprising the step of:

monitoring the broadcast between the master station of the local area augmentation system and the LAAS receiver for unauthorized broadcasts in the area having a similar character as ~~a~~ the

correction message broadcast by the master station using a security receiver;

receiving the correction message output by the master station; and

outputting an alert signal ~~upon detection of an unauthorized broadcast~~ when the message received by the security receiver does not match the correction message broadcast by the master station.